

CLAIMS

What is claimed is:

1. An anti-roll suspension system for a vehicle chassis having at least two laterally spaced front wheels and two laterally spaced rear wheels, the suspension comprising:
an axle assembly¹⁴ for mounting each of a pair of laterally spaced front wheels;
an axle assembly¹⁶ for mounting each of a pair of laterally spaced rear wheels;
a spring assembly for mounting the chassis on each of the axle assemblies;
a moveable arm²² connected between each spring assembly and the chassis; and
an anti roll linkage connected to said chassis and to said moveable arm, said anti roll linkage structured to translate a lateral movement of the chassis to a vertical downward movement of said moveable arm to the spring on the down force side of the chassis and a vertical upward movement of said moveable arm to the spring on the up force side of the chassis so that the anti roll linkage simultaneously lifts the down force side of the chassis and lowers the up force side of the chassis.
2. An anti-roll suspension according to claim 1 wherein said anti roll linkage comprises a bell crank³⁴ for pivotal mounting to a vehicle chassis having one arm³⁶ connected to an axle assembly, and a compensating link⁴² connecting another arm to said moveable arm for receiving and translating said lateral movement to said moveable arm.
3. An anti-roll suspension according to claim 2 wherein said spring¹⁸ is a coil compression spring normally disposed in a substantially vertical orientation
4. An anti-roll suspension according to claim 1 wherein said spring is a coil compression spring normally disposed in a substantially vertical orientation
5. An anti-roll suspension according to claim 4 wherein each of said axle assemblies is independently supported on said chassis.
6. An anti-roll suspension according to claim 5 wherein each of said spring assemblies embodies a McPherson strut.
7. An anti-roll suspension according to claim 5 wherein said anti roll linkage is interconnected between said laterally spaced wheels by a tie link.

8. An anti-roll suspension according to claim 7 wherein:

said laterally spaced wheels are front wheels; and

a steering box for said front wheels is mounted on said tie link.

9. An anti-roll suspension according to claim 4 wherein said moveable arm of each of said spring assemblies is a bell crank having one arm connected to an axle.

10. An anti-roll suspension according to claim 9 wherein each of said spring assemblies is embodied in a double wishbone suspension.

11. An anti-roll suspension according to claim 10 wherein each of the double wishbone suspension includes an upper control arm and a lower control arm, and each control arm is attached to said chassis by a bell crank.

12. An anti-roll suspension system for a vehicle chassis having at least two laterally spaced front wheels and two laterally spaced rear wheels, the suspension comprising:
an axle assembly for mounting each of a pair of laterally spaced front wheels;
an axle assembly for mounting each of a pair of laterally spaced rear wheels;
a spring assembly for mounting the chassis on each of the axle assemblies;
a moveable arm pivotally mounted on the chassis and connected to each spring assembly; and
an anti roll linkage connected to said chassis and to said moveable arm, said anti roll linkage structured to translate a lateral movement of the chassis relative to an axle assembly to a vertical downward movement of said moveable arm to the spring on the down force side of the chassis and a vertical upward movement of said moveable arm to the spring on the up force side of the chassis so that the anti roll linkage simultaneously lifts the down force side of the chassis and lowers the up force side of the chassis.

13. An anti-roll suspension according to claim 12 wherein said anti roll linkage comprises a bell crank for pivotal mounting to a vehicle chassis having one arm connected to support an axle assembly, and a compensating link connecting another arm to said moveable arm for receiving and translating said lateral movement to said moveable arm.

14. An anti-roll suspension according to claim 13 wherein said spring is a coil compression spring normally disposed in a substantially vertical orientation

15. An anti-roll suspension according to claim 14 wherein each of said axle assemblies is independently supported on said chassis.

16. An anti-roll suspension according to claim 15 wherein each of said spring assemblies embodies a McPherson strut.

17. An anti-roll suspension according to claim 14 wherein said anti roll linkage is interconnected between said laterally spaced wheels by a tie link.

18. An anti-roll suspension according to claim 17 wherein:
said laterally spaced wheels are front wheels; and
a steering box for said front wheels is mounted on said tie link.

19. An anti-roll suspension according to claim 17 wherein said moveable arm of each of said spring assemblies is a bell crank having one arm connected to an axle.

20. An anti-roll suspension according to claim 19 wherein:
each of said spring assemblies is embodied in a double wishbone suspension;
each of the double wishbone suspension includes an upper control arm and a lower control arm; and
each control arm is attached to said chassis by a bell crank.